Amendments to the Claims:

This listing of claims will replace all prior versions, and listings of claims in the application:

Listing of Claims:

(1-42) (Canceled)

43. (New) A method for the manufacture of a thermally insulating layer system (3a, 4, 1, 5) on a metallic substrate (2) or base body (3), wherein the layer system includes at least one anisotropically structured thermally insulating layer (1) having elongate particles (10), wherein

the thermally insulating layer (1) is applied by an LPPS thin film process in which a coating material in the form of a powder stream is sprayed onto a surface of a metallic substrate (2), with the coating material containing oxide ceramic components, being injected at a low process pressure between 50 and 2000 Pa, by means of a feed gas into a plasma which defocuses the powder stream and being partly or completely melted there, with a plasma with an adequately high specific enthalpy being generated, with the process gas for the generation of the plasma being a mixture of inert gases with a total gas flow in the range from 30 to 150 SPLM and with the specific enthalpy of the plasma being generated by the output of an effective power which lies in the range from 40 to 80 kW and can be empirically determined so that a substantial proportion of the coating material amounting to at least 5 % by weight passes into the vapor phase and an anisotropically structured thermally insulating layer (1) arises on the substrate (2), wherein elongate particles (10) in this thermally insulating layer (1), which form an anisotropic microstructure are aligned substantially perpendicular to the substrate surface and transition regions with little material (11, 12) delimit the particles relative to one another.

44. (New) The method of claim 43, wherein the coating material being injected at a low pressure process is in the range between 100 and 800 Pa.

45. (New) The method of claim 43, wherein the mixture of inert gases to be used for the process gas comprises argon and helium, with the volume ratio of argon to helium preferably amounting to 2 : 1 to 1 : 4.

46. (New) The method of claim 43, wherein the powder supply rate of the coating material is between 5 and 60 g/min.

47. (New) The method of claim 46, wherein the powder supply rate of the coating material is between 10 and 40 g/min.

48. (New) The method of claim 43, wherein the thermally insulating layer (1) is used in a gas turbine and its layer thickness has values between 20 and 1000 μm and wherein during manufacture the coating is built up of a plurality of layers.

49. (New) The method of claim 43, wherein the thermally insulating layer (1) is used in a gas turbine and its layer thickness has values of at least 100 μm, and wherein during manufacture the coating is built up of a plurality of layers.

50. (New) The method of claim 43, wherein the substrate (2) is moved during the material deposition with rotary movements relative to a cloud of the defocused powder stream.

51. (New) The method of claim 43, wherein the substrate (2) is moved during the material deposition with pivoting movements relative to a cloud of the defocused powder stream.

52. (New) The method of claim 43, wherein an oxide ceramic component of the coating material is a zirconium oxide completely or partly stabilized with yttrium, cerium or other rare earths and wherein the material used as a stabilizer is alloyed with the zirconium oxide in the form of an oxide of said rare earths.

53. (New) The method of claim 52, wherein the size distribution of the powder particles for the powder formed coating material is determined by means of a laser scattering method and wherein this size distribution lies in a predominant part in the range between 1 and 50 µm, with spray drying or a combination of melting and subsequent breaking and/or grinding being used as a method for the manufacture of the power particles.

54. (New) The method of claim 52, wherein the size distribution of the powder particles for the powder formed coating material is determined by means of a laser scattering method and wherein this size distribution lies in a predominant part in the range between 3 and 25 µm, with spray drying or a combination of melting and subsequent breaking and/or grinding being used as a method for the manufacture of the power particles.

55. (New) The method of claim 43, wherein an additional heat source is used in order to carry out the deposition of the coating material within a predetermined temperature range, with a heat input of the heat source and the temperature in the substrate to be coated being controlled or regulated independently of said process pressure, said gas flow rate and said plasma enthalpy.

56. (New) The method of claim 55, wherein the thermally insulating layer system (3a, 4, 1, 5) includes, apart from the thermally insulating layer (1), a base layer (3a, 4) between a base body (3) and the thermally insulating layer (1) and a cover layer (5) on the thermally insulating layer, wherein

a) the base layer includes a hot gas corrosion protection layer (4), the layer thickness of which has a value between 10 and 300 µm, and which comprises at least partly of either a metal aluminide, of a MeCrAlY alloy, with Me signifying one of the metals Fe, Co or Ni, or of an oxide ceramic material and has an either dense columnar or uniformly directed structure,

b) the cover layer is a smoothing layer, the layer thickness of which has a value between 1 and 50 μm, and which comprises at least partly of the same or a similar material to the thermally insulating layer, and

c) the part layers of the layer system are all applied by LPPS thin film processes in a single working cycle.

57. (New) The method of claim 55, wherein the thermally insulating layer system (3a, 4, 1, 5) includes, apart from the thermally insulating layer (1), a base layer (3a, 4) between a base body (3) and the thermally insulating layer (1) and a cover layer (5) on the thermally insulating layer, wherein

a) the base layer includes a hot gas corrosion protection layer (4), the layer thickness of which has a value between 25 and 150 μm, and which comprises at least partly of either a metal aluminide, of a MeCrAlY alloy, with Me signifying one of the metals Fe, Co or Ni, or of an oxide ceramic material and has an either dense columnar or uniformly directed structure,

b) the cover layer is a smoothing layer, the layer thickness of which has a value between 10 and 30 μm, and which comprises at least partly of the same or a similar material to the thermally insulating layer, and

c) the part layers of the layer system are all applied by LPPS thin film processes in a single working cycle.

58. (New) The method of claim 43, wherein the substrate (2) or the base body (3) comprises a nickel or cobalt based alloy.

59. (New) The method of claim 43, wherein the thermally insulating layer system is subjected to a thermal treatment after carrying out the coating process.

60. (New) The method of claim 43, wherein the substrate is a turbine blade of a stationary gas turbine or of an aircraft engine.

61. (New) The method of claim 43, wherein the substrate is a guide vane or rotor blade or a component acted on by hot gas.

62. (New) The method of claim 43, wherein the substrate is a heat shield in an aircraft engine